



**CONESTOGA-ROVERS
& ASSOCIATES**

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July 16, 2010 (revised from July 8, 2010)

Reference No. 056393

Mr. Michael Berkoff
Remedial Project Manager
U.S. Environmental Protection Agency - Region V
Superfund Division, Remedial Response Section #2
77 West Jackson Boulevard (SR - 6J)
Chicago, Illinois 60604 - 3590



Dear Mr. Berkoff:

Re: Revised Proposal for Temporary Leachate Collection Wells
12th Street Landfill Operable Unit No. 4
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Allegan and Kalamazoo County

As discussed during our weekly conference call held on July 7, 2010, and as subsequently discussed during the next weekly conference call held on July 15, 2010, Conestoga-Rovers & Associates (CRA), on behalf of Weyerhaeuser Company (Weyerhaeuser) is requesting that the test pits required in the last paragraph of Section 6.3.2 (bottom of page 43 / top of page 44) of the Final Design Report for the 12th Street Landfill, Otsego Township, Michigan (Site) for removal of perched leachate potentially be replaced with temporary leachate collection wells. CRA is concerned that excavation of the required test pits may involve removal and replacement (backfilling) of a significant volume of construction debris which will be difficult to properly re-compact and thus lead to potential settlement of these backfilled materials under the final cover system. According to the information presented in the February 1994 Geraghty & Miller, Inc. "Test Pit Investigation Technical Memorandum", the depth of the construction debris was observed to be as much as 20 feet deep (test pit TP-16). As such, the estimated soil volume in any particular test pit performed for leachate investigation and removal could be as much as 10,000 cubic feet (based 38 feet in length, 24 feet in width, and 18 to 20 feet in depth at TP-16).

In lieu of digging test pits, CRA is proposing to initially install at least four temporary leachate collection wells in the approximate locations presented on the attached figure. Two temporary leachate collection wells will be installed within the delineated area described as the "Approximate Location of Construction Debris (Geraghty and Miller, 1994a)". A third leachate collection well will be installed directly north of the delineated construction debris area, at the approximate bend in the landfill sideslope as it proceeds around the northwest corner of the adjacent Michigan Department of Natural Resources and Environment (MDNRE) property. During ongoing landfill excavation and regrading activities in this area, construction debris has been encountered and a leachate seep has been observed. The proposed well would be installed near the top of the existing slope in order to intercept the leachate before it potentially leaves the





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Site. It should be noted that the quantity of leachate encountered during the regarding activities has been minimal and has not migrated off-Site. Any observed leachate has either evaporated or has been contained and managed on-Site.

In addition to the three potential leachate collection wells within the identified locations of construction debris, one other temporary leachate collection well will be installed along the northwest side of the 12th Street Landfill. At present, there is a leachate seep emanating from the northwest sideslope approximately midway between former monitoring wells MW-2 and MW-3. A temporary leachate collection well will be installed above the observed seep area, near the top of the current landfill sideslope. Slope excavation activities have been completed around to the west side of the landfill, adjacent to the asphalt plant property, and no construction debris was observed nor have any additional seeps been identified in this area.

The proposed temporary leachate collection wells will be drilled using appropriately sized hollow stem augers such that 4-inch diameter wells screens and casing may be installed. The intended depth will be approximately 20 feet within the construction debris area, or until the interface between high permeability construction debris and low permeability paper residuals or clay is observed. It is expected that the presence of construction debris may prevent drilling to the bottom of the previously placed construction debris (i.e., may hit refusal). If more than two attempts are required at any particular location, then the well will be placed above the depth of refusal, assuming perched water has been encountered. CRA and Weyerhaeuser will consider additional leachate collection wells in the known construction debris area if the perched water table is not adequately addressed by the initial leachate collection wells. The other two temporary leachate collection wells to the north and northwest may be shallower in depth, but will also be installed to the observed interface. If no construction debris or perched water is encountered, then a temporary leachate collection well will not be installed at that particular location.

The well casings at any or all locations will be extended, as necessary, should fill placement be required around the temporary leachate collection wells to facilitate completion of the landfill regrading and cap construction. Each leachate collection well will be screened across the entire depth of the observed high permeability debris or fill. Within the known construction debris area, the well screens could be anywhere from 10 to 20 feet in length, while the length of the well screens at the other proposed locations may be only 5 to 10 feet in length, as defined during drilling. The well screen and casing material will be PVC, with stringent care taken in areas where several feet of fill placement is still required around the well to prevent damage during fill placement.

A composite sample will be collected from the installed leachate collection wells for analysis to ensure that the current on-Site treatment system can adequately treat the extracted leachate.



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This sample will be collected prior to the commencing the extraction of leachate. Assuming that on-Site treatment is effective, leachate will be extracted three to five times per week from each well, rotating a temporary pump between the various leachate collection wells. The exact well pumping frequency will be determined in the field based on leachate quantity and recovery rates. It is expected that installation of the leachate collection wells may be performed next week (July 19-23), with pumping to commence immediately thereafter. Pumping will continue until the temporary wells are abandoned prior to placement of the gas venting layer and the liner. The wells will be properly abandoned by cutting off the well casings below ground surface and grouting.

It is CRA's expectation that removal of leachate via the proposed temporary leachate collection wells will be equally as effective as excavation of the test pits, but will avoid the need to remove excessive quantities of soil during the test pit installations. The use of temporary leachate collection wells for leachate extraction will also negate the disturbance of the historically placed waste materials and the potential for settlement after the final cover system has been installed and the resultant potential for subsidence of the cover system due to settlement of the underlying materials. It is expected that the current waste materials have already completed any long-term settlement and the placed fill materials over the top surface of the landfill will be adequately compacted.

It is our intention to install additional leachate collection wells, as necessary, to adequately remove the perched water. As such, the implementation of leachate collection will be an iterative program, with test pits only being required if there is still evidence of perched leachate within the landfill. Discussions and decisions as to additional well locations will be made during future weekly conference calls.

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Gregory A. Carli, P. E.

CRH/cs/20

Encl.



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